29th December 2008

The Director
Referrals Section (EPBC Act)
Approvals and Wildlife Division
Department of the Environment and Heritage
GPO Box 787
CANBERRA ACT 2601

Dear Director

Submission on Referral: Hancock Prospecting Pty Ltd/Mining/Near Alpha, Clermont and Mackay/QLD/Alpha Coal Project - Mine and Rail Development (Ref: 2008/4648)

Proponent making the referral: Hancock Prospecting Pty Ltd (HPPL)

Please consider our comments on the above referral from Hancock Prospecting Pty Ltd (HPPL) for approval to develop a large open-cut coal mine and rail infrastructure in central Queensland. We write as co-owners (with others) and managers of a property gazetted as a Nature Refuge (Lot 4, Plan BF22, Parish of Saltbush, County of Jericho) which adjoins the proposed mine site.

In this submission you will find general and specific reasons why the proposal from HPPL poses a significant threat to the local and regional environment.

LEVEL OF ASSESSMENT

While this submission focuses on the mine proposed by HPPL, the larger project involving rail and port development is of such a scale and potentially impacting on so many Matters of National Environmental Significance and other components under the legislation, that there is a strong case for the Minister to require a Public Commission of Inquiry. Compared with, for example, an EIS assessed by the Queensland Government, a public inquiry would be able to better uncover the full range of potential and likely impacts of the proposed development. An inquiry would also provide an appropriate time-frame for the public to present their concerns. Additionally, a Strategic Assessment under section 146 of the EPBC Act may be appropriate.

The concerns raised below could only be fully and properly addressed by a public inquiry. Certainly they demonstrate why the current proposal by HPPL must be subject to the most rigorous review.
CONTROLLING PROVISIONS

1. The Desert Uplands

The proposed mine would be the first of its kind in the Desert Uplands bioregion. This area is recognised as home to a rich diversity of ecosystems by the Queensland EPA.


There is a strong case for a thorough assessment of the likely impact of mining on the Desert Uplands bioregion. HPPL's mine and rail plan is one of many mineral extraction projects proposed for the Galilee Basin, a vast inland coal-bed covered by the south-western half of the Desert Uplands. [For example, see: www.easterncorp.com.au/PDF/galilee-basin-holland.pdf

The totality of the impact of all planned and current mining activities, transport infrastructure and related industries must be considered to determine their combined impact on the region. Piecemeal consideration of isolated cases can lead to inaccurate assessment.

In section 3.3 of the referral (p.42) it is claimed that: “The mine site is representative of the broader region which is modified grazing and agriculture land. No known outstanding natural features exist within the project area and are unlikely to be impacted by the mine site action.”

This claim is representative of an icon-centric view of the landscape which is simply blind to the more subtle features which makes every landscape precious and unique. In large part, it is a view only made possible in the absence of information about, and an appreciation of, ecological dynamics in their own right. Our sentiment is echoed in the opening few paragraphs of the attached letter from the Chair of the Desert Uplands Committee.

A range of special qualities and vulnerabilities of the Desert Uplands region are relevant to the mine area proposed in the HPPL referral:

i. The Desert Uplands is listed as an Australian Biodiversity Hotspot, and as such is an area of national environmental significance. The basic selection criteria for Biodiversity Hotspots reveals that the Desert Uplands is home to many endemic species and that there are many existing threats to biodiversity, which a new large open-cut mine will only exacerbate. The Australian Government Natural Resource Atlas reports 29 vulnerable and 14 endangered regional ecosystems. Twenty-one species are listed as threatened, nine endangered and 12 vulnerable in the bioregion. However, this is unlikely to represent all ecosystems and species threatened by mining activities, as demonstrated in the following point.

ii. A recent CSIRO study of the Desert Uplands' vertebrate fauna revealed a stunning paucity of information. The author of the study, Dr. Alex Kutt, found that “the vertebrate fauna of Queensland's tropical savannas are almost entirely unknown and unsurveyed” [see http://savanna.cdu.edu.au/education/alex_kutt.html ]. The CSIRO study discovered two previously unknown reptile species, which suggests that any decision relating to the impact of mine development in the Desert Uplands would be made on incomplete information, and may have impacts on rare and endangered species not yet discovered.
iii. Considering the low level of baseline information, it is unlikely that the flora and fauna survey planned by HPPL will uncover the breadth and complexity of the region's biodiversity, especially within their time scale of “by 2010” (p. 12). Furthermore, given the climatic variability of the region, ranging from periodic severe drought to occasional monsoonal flood, a thorough biodiversity assessment would need to occur over a representative number of seasons. The issue of insufficient knowledge and understanding is confirmed by findings in the EPBC Act Protected Matters Report. Due to a lack of familiarity with the Desert Uplands ecology, the ramifications and implications of the dangers to threatened species from the proposed mine are probably grossly underestimated. Accordingly, the recovery of such species has not been appropriately addressed in the referral document. Let's remember that from endangered status, the next step is extinction.

iv. As well as insufficient and incomplete surveying and reporting of the Desert Upland's ecosystems and species, there is an extremely poor level of protection of ecosystems and species within the region. According to the Australian Government's reported biodiversity assessment (available on the Australian Government's Natural Resource Atlas), only 2.3% of the Desert Uplands bioregion is held in conservation tenures, and less than a third of the region's ecosystems are represented in the region's two National Parks.

v. The Natural Resource Atlas describes how a range of factors contribute equally to the threatening processes in the region. These include: feral animals, increasing fragmentation, grazing, clearing, changed hydrology, pathogens, illegal trapping and collecting, weeds, fire management, salinity and pollution. Obviously, mining in the Desert Uplands is likely to exacerbate several of these key threatening processes, including increasing fragmentation, clearing, changed hydrology, pathogens and weeds.

vi. An important reason for undertaking a bioregional level assessment of the potential impacts from mining is the likely changes to bioregional scale habitat, species abundance and distribution, and ecosystems from climate change. Considering that eco-tones are expected to shift under changed future climatic regimes, assessing a limited area is totally inadequate, as species distribution and habitat are likely to change over the coming decades.

vii. There are a number of projects currently operating in the Desert Uplands which aim to protect and enhance the region's conservation values. Notable is the Biodiversity Stewardship program called 'Landscape Linkages' which encourages and rewards landholders who maintain continuous ground cover between the region's bordering ranges (see attached letter from the Desert Uplands Committee). A vast open-cut coal mine, as proposed, would seriously compromise the positive conservation outcomes from such programs.

viii. HPPL must be required to state specifically how their mine would impact biological diversity in the Desert Uplands, and particularly that area in the south-east of the region where the mine would drastically change the local environment.
The above section relates to concerns specific to the biological region of the proposed mine site. We now respond to particular details in the HPPL referral.

2. Threatened species and ecological communities

Section 3.1 of the HPPL referral lists four (4) vulnerable and two (2) endangered fauna species and two (2) endangered ecological communities occurring in the mine site locality (p. 14). However, the description given under the heading “Nature and extent of likely impact” (p. 25) in relation to these species and ecological communities, is frustratingly vague and almost entirely unsubstantiated.

i. The referral claims that “[a]ctual impacts to threatened species are […] likely to be insignificant” (ibid.) yet the following justifications barely relate to this claim. It is claimed that impacts will be insignificant due to:

- “The nature of the proposed works” - without providing any further details about what is meant by this.

- “The degree of tolerance and/or recovery species has exhibited to similar disturbances […]”. This claim is justified by an example of one vulnerable species being recorded in rail corridors, thus ignoring the fate of the other three vulnerable and two endangered species in regards to mining developments in particular.

- “The detailed environmental management measures and strategies to be implemented […]”. No details are provided about just what these would be. The following sentence simply notes that such “measures and strategies” may change over time.

ii. The HPPL referral makes no mention of the importance of corridors for the listed vulnerable and endangered species. This is despite the fact that the local habitats of the species are likely to be interrupted by the mine, with potential alteration of their ideal habitats. The disruption to local habitats may be further impacted if there is on-going climate change.

iii. It is claimed that ecological communities are “unlikely to be directly impacted” (p. 25) outside the project area, but this is followed by an admission that “the potential remains that the communities may be indirectly impacted during construction and operation through dust deposition.” More significantly, there is a total absence of any estimation of the actual area of threatened ecological communities likely to be directly effected by the project site. This is a major omission.

3. Mitigation of impacts on flora and fauna

Some specific points in section 4.4.5 of the referral related to the welfare of plants and animals during the proposed mine construction and operation need careful scrutiny. But first,
regarding section 4 of the referral (Measures to avoid or reduce impacts, pp. 47-50) a general point needs to be highlighted in regards to strategies that deal with individual plants and animals, rather than taking a habitat/ecosystem level approach.

In short, it is the integrity of a whole system that is crucial, rather than the survival of individual plants and animals, which on their own are unlikely to survive or thrive. Further, there are many components of an interdependent ecosystem that are not visible to the naked eye, and thus are unlikely to be taken into account (eg. macro and micro organisms in the soil).

On our property, we spend the bulk of our days trying to rehabilitate an abused landscape and retain remnant species. We are committed to this restorative work and have spent all our adult lives living closely with the natural environment. So we feel we can speak with some authority.

Frankly, the actions described in section 4.4.5 of the referral would generally be ineffective. Most of the proposals are merely cosmetic and some of them border on the ridiculous. Relocation of isolated individuals on a happen-chance basis is a total waste of time and money. It is also contrary to the latest best practice. Those of us familiar with land clearing know full well that habitat removal is the end game. From first hand observation, when habitat is destroyed so too are the lives of those within in. This is the price paid for development.

We comment below on a number of the proposals on pages 49 and 50 of the referral to demonstrate the futility of such efforts. Overall, for those of us aware of the realities of caring for flora and fauna in this remote area of Queensland, many of the actions would be unworkable in practice.

i. The referral proposes that: “Site personnel are to be advised during training that all native fauna is protected. The specific presence of protected species and their management are to be described.” Relying on site personnel to be responsible for flora and fauna is highly problematic for several reasons. Certainly staff could be trained in fauna protection. However it is impossible to guess how they could ever realistically take appropriate action during normal work duties. Again no indication is given in the proposal.

Furthermore, apart from the few larger species, such as the common Eastern Grey Kangaroo and the increasingly uncommon Emu, the fauna is overwhelmingly tiny, timid and hidden. The Inland Forest Bat, for example, weights just a few grams and is one of the smallest mammal species so far recorded. The Eastern Long-eared Bat, a species which according to the referral could be threatened by the proposed mine, is marginally larger but equally hard to find and rescue. The referral offers no details as to how exactly mine personnel could act to protect such small and vulnerable species.

ii. It is stated that on finding any injured, sick or orphaned fauna after land clearing, the EPA would be alerted, or the animal taken to the nearest veterinary clinic. The reality in this region is that there are five practicing veterinarians in a 35,000 km² area, and these are kept busy attending to the animals that are the mainstay of the local economy. There is a very slim chance that existing veterinary services could tend to fauna from the proposed mine area.
iii. It is claimed that: “A qualified spotter/catcher shall inspect areas of disturbance prior to clearing in order to identify any nesting species. This shall be done with a suitable lead in time to ensure that specific management measures can be implemented to ensure that nesting species are not disrupted until the young have fledged. This is particularly important for raptors and Squatter pigeons.” Also, that: “nesting species must be given a suitable buffer distance that is clearly marked as a ‘no go zone’ until spotter/catcher has authorised that clearing in the area can commence.” This is quite clearly impractical for rare and threatened species over a large range, particularly since their habits in the mine area have not been fully documented. However in the case of the squatter pigeon, it lays two eggs in long grass. In reality, even a qualified spotter would only become aware of its “nests” after the eggs had been destroyed. It also seems most unlikely that mine development would be postponed while all young animals were reared to a viable level of maturity.

iv. There is no mention of how relocation sites will be identified, or if whether/how specific animal territoriality behaviours will be factored into the choice of relocation sites.

v. Likewise, the claim that culverts “should” be checked regularly is vague and impracticable, given the likely extensive road networks that would arise in and around the mine area. It would take very little time for an animal trapped in a culvert to perish from lack of water and shelter in a region where summer temperatures regularly reach over 40 degrees Celsius. Finding and rescuing the animals would be major exercise. There is nothing to suggest that HPPL would really be committed to the task. Moreover, such animal rescue is incompatible with any similar large-scale mining operation now in existence. Much more detail would be needed before culvert checking could be considered meaningful for the proposed site.

vi. Another unclear claim is that riparian vegetation will be retained 'for habitat corridors within the Project area to facilitate habitat linkages between vegetation areas.' Given that ‘riparian’ vegetation refers to that which is alongside rivers and creek lines, it will not necessarily link habitat islands, if they occur away from rivers or creek lines. This point is not only vague but misleading.

vii. It is claimed that “to ensure that the seed bank in removed soil is preserved as much as practical, stockpiling of topsoil will be undertaken”. However, stockpiling of topsoil has never been shown to produce successful seed banks, and especially not for the relevant species in this arid region. Seeds left exposed in the upper/external zone of stockpiles bake at temperatures that destroy them. Seeds buried in the inert inner zones would have a limited viability. When soil is removed from its intact/natural ecosystem its structure and chemistry undergoes critical change. Native seeds cannot survive such harsh treatment and worse, some species predominant in the region do not regenerate from seeds. Inevitably buffel grass, which is considered a weed in many parts of inland Australia [see www.csiro.au/science/BenefitCostOfBuffel.html], would dominate and prevent the re-establishment of a broader flora biodiversity. Intensive mico-management of seed stocks would be required for any project to succeed with preservation and propagation of native seeds found in the local top soil. The biological practice to achieve this on the scale relevant to the proposed mine area simply does not exist.
Queensland, mining has had no effective rehabilitation or biodiversity retention requirements to date.

viii. In stating that weed infestations within the construction area will be treated and/or removed, there is no mention of what would be considered a weed.

ix. There is no mention of any policing of the stated actions, or penalties/reprimands on the company and/or individual staff for breaching the mitigation guidelines.

4. The Great Artesian Basin

The site of the proposed mine is in the recharge area for the Great Artesian Basin (GAB) which has been widely recognised as needing greater care. Only in recent years has anything like a reasonable understanding begun to emerge of the operation of this huge and amazing water system. It is impossible to ensure adequate protection and management of the GAB if a massive new development with the potential to negatively affect the basin is allowed, before we understand the system and how it will be affected.

According to page 41 of the referral: “A hydrogeological study undertaken during the EIS will identify groundwater values of the mine site and recommend suitable management strategies.” This is far from adequate. The potential and likely impacts on water systems must be considered in a wider context, particularly with reference to the GAB.

Increasingly graziers have understood the need to conservatively manage their use of water from the GAB. The current push for landholders to tap their bores will become meaningless, and current management plans thrown into disarray, if any significant amount of water is extracted for use by the proposed mine and its personnel. The use of such water is clearly proposed in the HPPL referral (p. 6):

Total raw water demand for the mining operation, processing facility and supporting infrastructure will be up to 11,000 ML per annum, depending on the final process design. [...] It is proposed that the water supply for the mine will be sourced from a combination of groundwater pumped from the site aquifers and a new water pipeline from the Burdekin Dam. The amount of groundwater available onsite and the recharge capacity will be determined during future studies. The mine may commence initial operations entirely on groundwater until a pipeline from the Burdekin Dam to Alpha (and other possible mining operations) is operational.

Prudent management of the Great Artesian Basin (GAB) demands that his proposal not be allowed to proceed unless and until its potential impact on the underground water system is adequately researched. In particular, any decision on the reasonableness of the proposed use of water from the GAB should only be made after its likely impact is properly documented.

5. Lake Galilee

One of the most significant ecosystems near the proposed mine is Lake Galilee, however the HPPL referral document makes no mention of this lake. It is less than 100km from the proposed mine. The maps attached to the HPPL referral cut off the area west of the mine, excluding the western uplands catchment. The location of Lake Galilee (22° 21’ South and
145° 48’ East) can be seen on Google maps:
[e.g. www.mapygon.com/australia/queensland/aramac/places-lake-galilee-glenample.html or www.traveljournals.net/explore/australia/map/m2234188/lake_galilee.html].

The referral's Figure 4 showing Regional Ecosystems does not identify this major wetland in the centre of Queensland.
[http://d301432.u111.fasthit.net/files/Submitted_EPBC/MineRail/ Figures/Figure%204%20Environmental%20Areas.pdf].

As described by the Queensland EPA, this internally drained lakebed covers approximately 220 km², and along with the more distant Lake Buchanan, is a highly distinctive ecological feature of the Desert Uplands region.
[www.epa.qld.gov.au/nature_conservation/biodiversity/desert_uplands_strategic_land_resource_assessment/3_geomorphology/34_significantGeomorphological_features_of_the_region/347_the_lake_galilee_catchment/]

Lake Galilee is a wetland of national significance and an important breeding and nesting ground for a population of over 50,000 waterbirds. Its importance as a refuge for biological diversity in arid Australia has been recognised by your department. [See http://www.environment.gov.au/biodiversity/publications/series/paper4/bio133.html].

HPPL must be required to address potential and likely impacts on the ecology of the Lake Galilee catchment and particularly on migratory birds and resident water-dwelling wildlife.

6. **Stock Route Network**

The mine and associated rail development will inevitably have a severe impact on the local Stock Route Network throughout the Barcaldine and adjacent regional council areas. This network is currently home to rare and endangered fauna and flora. It also has important cultural heritage values.

The stock routes were established over a century ago when, by necessity, transport routes were built along geographical lines, rather than cutting through them. Ever since the routes have been subject to various burning and grazing regimes that today provide an invaluable contrast to adjacent pastoral land. Therefore they reflect a sensitivity and subjectivity to the natural environment which does not feature in more recent development.

Large-scale mining would disrupt this network, which in many places serves as a critical source of connectivity for fragmented ecosystems, providing corridors for the movement of wildlife and plant species. Inevitably, the HPPL project would cause increased degradation of the local stock routes.

7. **A global perspective**

We urge you to consider the wider context of the proposed HPPL coal mine. It is hard to
believe that there are proposals to open new mines when it is obvious we need to be closing them, given the huge body of scientific evidence coming in about the state of land, air and ocean. If global warming doesn't rate as an issue of national significance, and is not factored into your assessment of this proposal for massive coal extraction, what will we tell future generations? That sadly, the legislation in 2008 had not kept up with the best scientific knowledge of the time? Global impacts on climate are not currently listed as an issue under the EPBC Act.

Coal mining activities have expanded significantly within the Central Highlands, Isaac and Whitsunday Regional Council areas in recent years. This expansion has fragmented and continued to degrade the natural ecosystems of central Queensland. In the current worldwide economic downturn, the future of mining has become far less certain. We could be left with a severely degraded environment and debilitated industries unwilling and unable to support the extensive scientific and hands-on work needed for ecological restoration. If it happens that global warming advances significantly in the next ten or twenty years, both economic and social politics may demand that we not burn coal. The continued expansion of the coal mining industry may well jeopardise our global and local environments. The fundamental well-being of our society is at stake.

8. Conclusion

As indicated in our opening comments, we would urge the Minister to establish a Public Commission of Inquiry into the proposed expansion of the Queensland coal mining industry into the Galilee Basin. We would also request that the Minister consider conducting a "strategic assessment" under section 146 of EPBC Act if it is deemed appropriate. Clearly the HPPL proposal raises extremely serious environmental concerns. It should be considered in the context of a wider push by coal and gas companies to exploit the Galilee Basin. There is a very real potential for such mining to destroy a bioregion before we have even begun to really understand what would be lost.

Yours sincerely

Ian Hoch and Paola Cassoni